

# A Proposed Clinical Decision Support System (CDSS) Output Message

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## INTRODUCTION

When a clinical decision support system (CDSS) or other ancillary system detects an abnormal or problematic condition, healthcare providers must be notified in a timely manner so that appropriate corrective action can be taken. Delivery of clinical alerts to the appropriate providers is the role of a notification system.<sup>1,2</sup> The content generating system must therefore communicate to the notification system the content to be delivered and any additional directives regarding the resulting notifications.

This work is sanctioned by the Health Level Seven, Inc., Clinical Decision Support Technical Committee (CDS TC) and is based on previous proposals to the CDS TC.<sup>3</sup> The proposed message model is presented as an XML schema.<sup>4</sup>

## NOTIFICATION MESSAGE

The scope of the proposed notification message is broad. The information model includes not only the information provided by the CDSS, but also information about the subsequent notification activities provided by the notification system.

The information sent from the CDSS to the notification system includes the clinical content, patient or cohort, date and time of content generation, urgency, relevant context information, conclusions, clinical recommendations, and initial notification recipient(s). As the notification system initiates and manages the notification process, additional information is captured and included in this message to document the delivery of the message and any responses from the recipient(s).

The message (figure 1) is composed of 5 sections:

1. **content:** contains all alert content information, including a unique identifier, content type, originator, date and time of origination, patient data, conclusion, relevant context information, clinical recommendations, and relevant explanations. This information is to be supplied by the originating system.
2. **distribution.list:** contains the initial distribution information.
3. **notifier.submission:** contains information regarding submission of the content and distribution list to the notifier, including the date and time of submission to the notifier.

4. **notifier.acknowledgement:** contains information regarding notifier receipt acknowledgment of the content and distribution list, including the date and time of acknowledgment. The information in this element is to be supplied by the notification system.
5. **delivery:** contains information regarding processing of the notification recipients and actual delivery of the notifications.

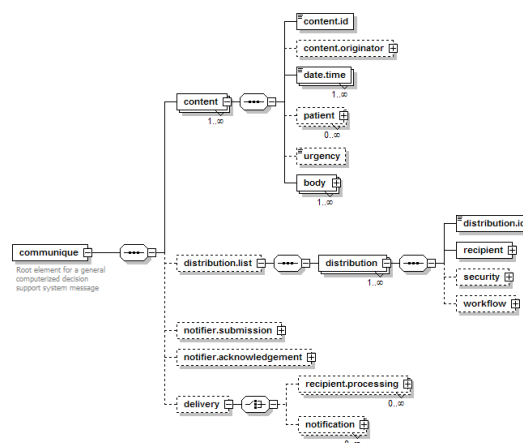


Figure 1. Message Overview

## REFERENCES

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2. Sailors RM, Bradshaw RL, East TD. Component Architectures for Clinical Decision Support: A Notification Demonstrator. Journal of the American Medical Informatics Association 1999;6(Symposium Supplement 1999):1152
3. Polikaitis A, Hirsbrunner A. HL7 Arden Syntax Action Slot Write Statement Notification Message, Version 2.0, Description of Proposed XML Elements and Attributes. Motorola Healthcare Communications Solutions. 2000.
4. <http://www.w3.org/XML/Schema>

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